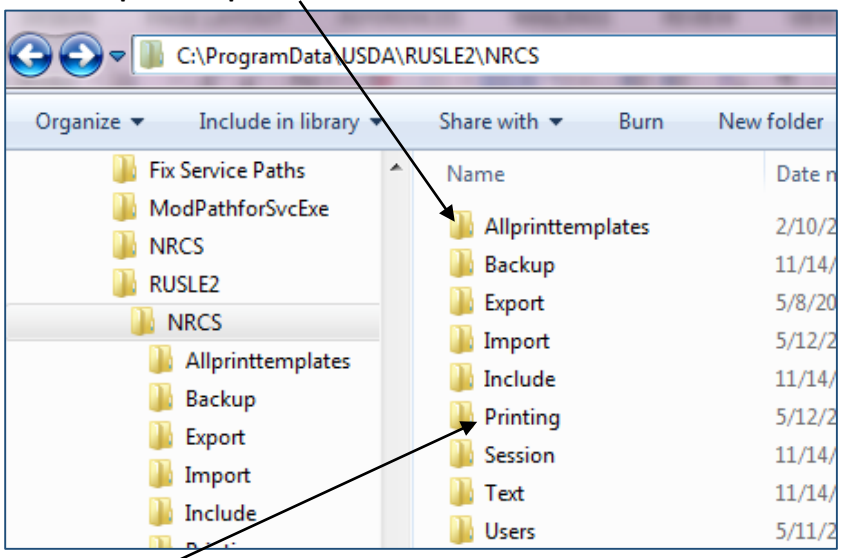
Procedures to load the new SD-JS-AGRON RUSLE2 jobsheet (printing template).

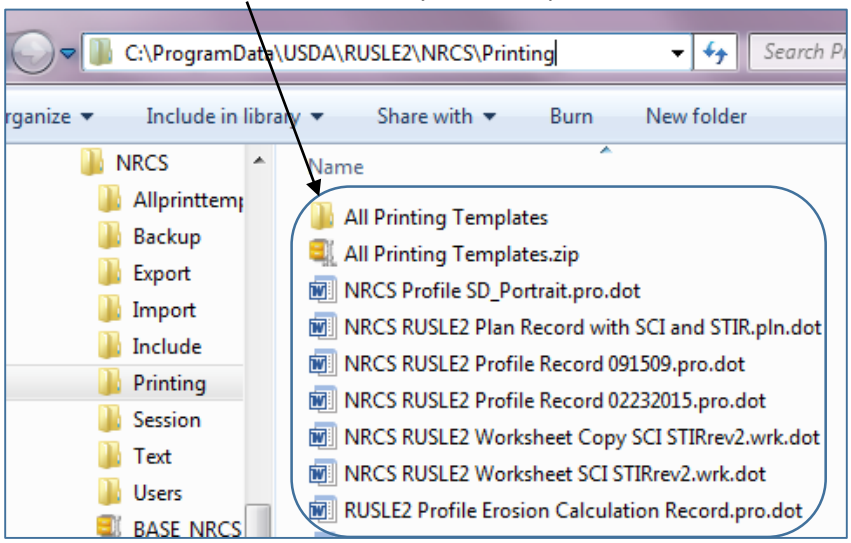
Use Windows Explorer to navigate to **C:\ProgramData\USDA\RUSLE2\NRCS**

Delete **Allprinttemplates** folder

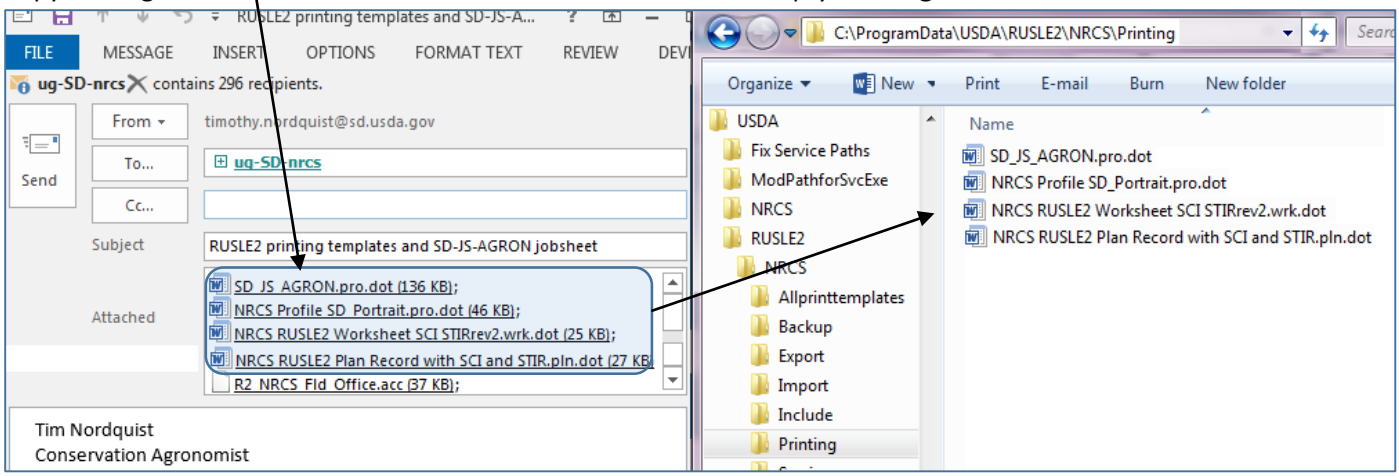


Open **Printing** folder

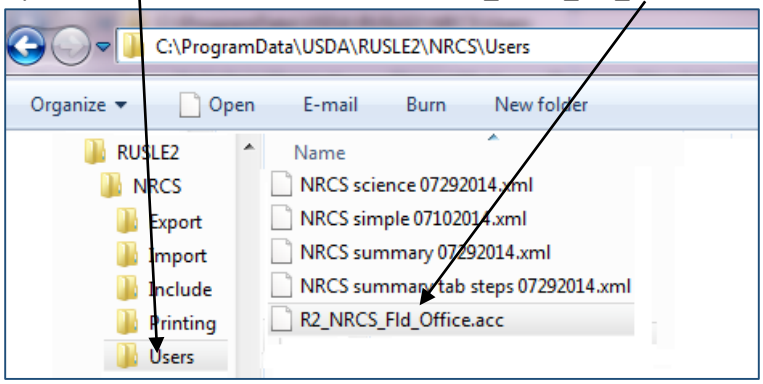
Delete all subfolders and files. They will be replaced with the email attachments.



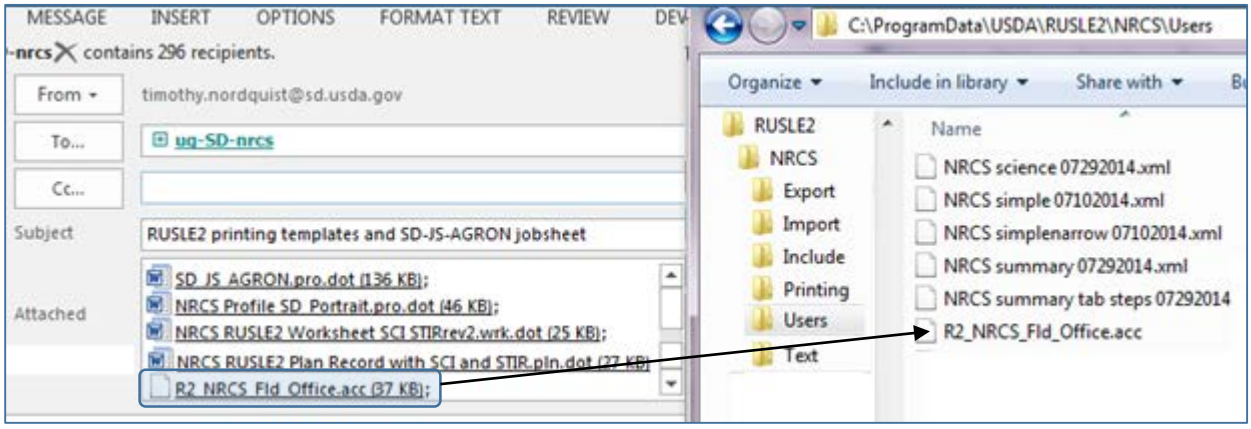
Copy or drag these 4 attachments from the email into the now empty **Printing** folder.



Open the **Users** folder and delete the **R2_NRCS_Fld_Office.acc** file

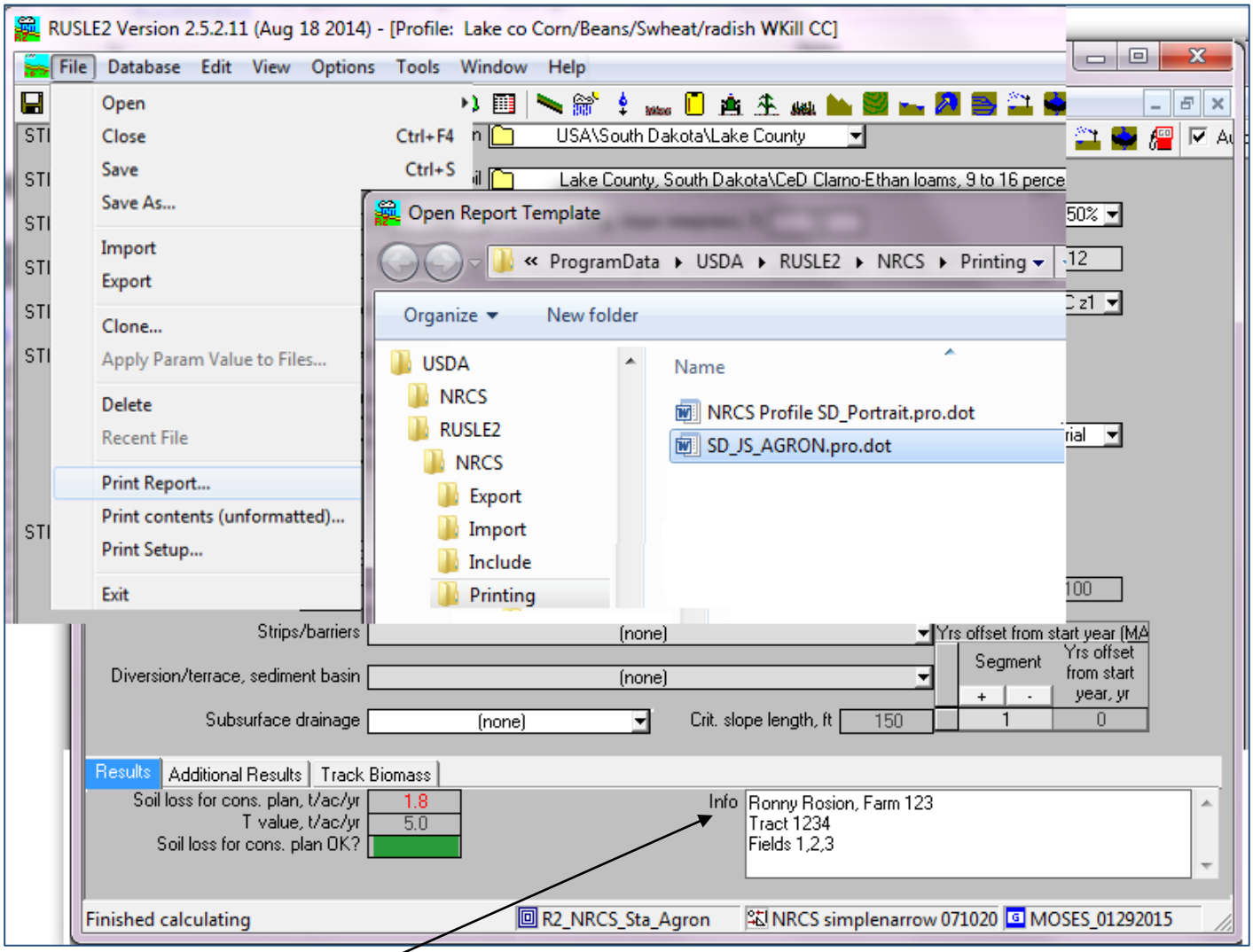


Copy or drag the new **R2_NRCS_Fld_Office.acc** from the email into the Users folder.

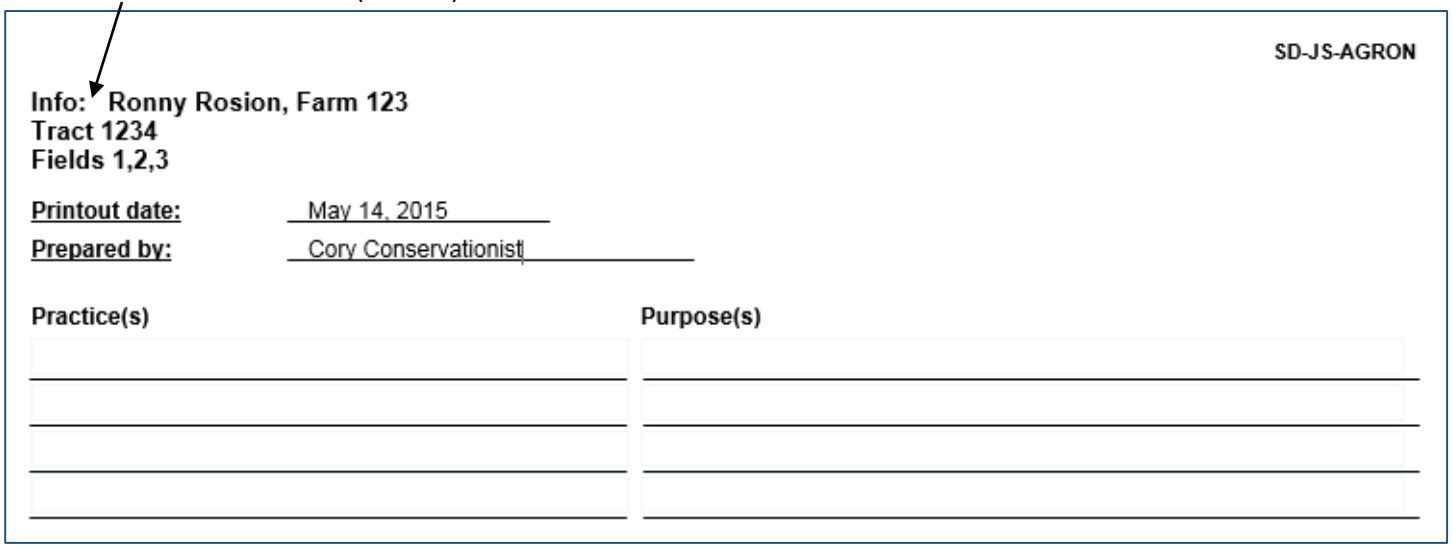


Using the SD-JS-AGRON

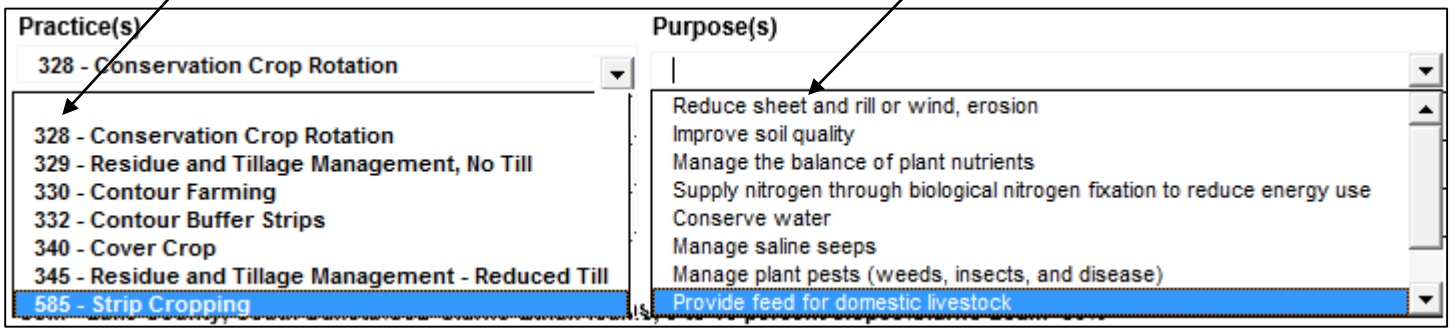
After completing a **RUSLE2 profile erosion calculation**, select Print Report in the File menu, and open the **SD-JS-AGRON**.



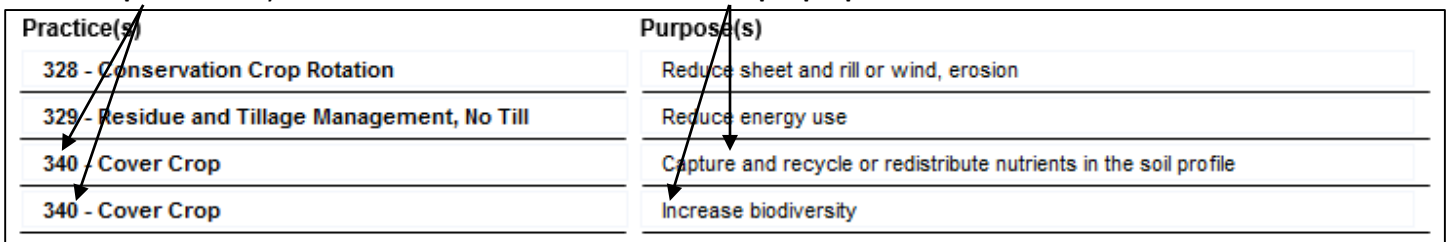
Enter client information here (or here).



Select the **conservation practice** being planned. Select the corresponding **purpose** for applying the practice.



The same **practice** may be selected several times to allow **multiple purposes**.



Location: USA\South Dakota\Lake County

Soil: Lake County, South Dakota\CeD Clarno-Ethan loams, 9 to 16 percent slopes\Clarno Loam 50%

T value: 5.0 t/ac/yr

Slope length (horiz): 150 ft **Avg. slope steepness: 12 %**

Contouring: a. rows up-and-down hill **Strips/barriers: (none)**

Diversion/terrace, sediment basin: (none)

RUSLE2 Results: The following estimate of average annual rainfall-induced soil loss is based on some factors that are beyond cooperater control, such as climate and soil type, as well as those factors that are within cooperators control, such as the Crop Rotation and Residue Management decisions documented below.

Soil loss for cons. plan	*Detachment on slope*	*Soil loss erod. portion*	*Sediment delivery, t/ac/yr*
1.8	1.8	1.8	1.8

Conservation Crop Rotation (328) The crops, their planned yields, and the sequence they will be grown in is:

Vegetation	*Yield units*	*# yield units*	*Planting op.*
vegetations\Corn, grain	bushels	145.00	1
vegetations\Soybean, group 0 and I, 7in rows	bu	35.000	2
vegetations\Wheat, spring 7in rows	bushels	50.000	3
vegetations\Radish, oilseed, fall cover crop, early Aug seeding	lbs	3000.0	4

Duration: 3 yr

Residue and Tillage Management (Select 1)

(•) **No-till (329)** ( ) **Reduced Till (345)**

The following schedule of tillage, planting, and harvest operations is designed to result in the listed percentages of the soil surface being covered with residues from the previous crops on the listed dates. The presence of the residues in at least the listed amounts on the listed dates will be evidence of implementation of the planned practice.

Date	*Operation*	*Vegetation*	*Surf. res. cov. after op, %*
4/25/0	Fert. applic. anhyd knife 30 in		92
5/13/0	Sprayer, pre-emergence		90
5/15/0	planter, double disk opnr	Corn, grain	90
6/17/0	Sprayer, post emergence		85
10/15/0	Harvest, killing crop 50pct standing stubble		92
11/1/0	disk, tandem light finishing		75
5/25/1	Cultivator, field 6-12 in sweeps		61
5/26/1	disk, tandem light finishing		39
5/27/1	Sprayer, pre-emergence		39
5/28/1	Drill or airseeder, double disk	Soybean, group 0 and I, 7in rows	37

Use the **radio button** to specify which **Residue and Tillage Management** practice is being applied.

5/1/2	Fert applic. surface broadcast		34
6/1/2	Sprayer, post emergence		27
8/1/2	Harvest, killing crop 50pct standing stubble		71
8/2/2	Drill or air seeder single disk openers 7-10 in spac.	Radish, oilseed, fall cover crop, early Aug seeding	80
11/1/2	Winter kill annual crop		93

Soil Conditioning index (SCI):

The above **Conservation Crop Rotation**, and its associated **Tillage and Residue Management** are designed to maintain and improve the quality and health of the planned soils. The best measure of soil quality and health in South Dakota is the amount of soil organic matter (SOM) or soil carbon (C) they possess. The SCI is an index score (no units) designed solely for comparing the relative impact of different management alternatives on long-term soil quality trends.. If SCI is negative (less than zero), SOM and soil C (soil quality) are predicted to decline over time on the modeled slope under the modeled management system. If SCI is positive (greater than zero), SOM and soil C and soil quality are predicted to stay the same or to increase over time. SCI scores usually range from -1 to +1 in typical SD situations, although more extreme values are possible. When calculating SCI, RUSLE2 considers three key factors: (1) amount and type of surface and subsurface biomass returned to the soil; (2) tillage-induced oxidation of soil carbon; and (3) predicted sheet & rill erosion. Climate and soil type inputs are also considered due to the influence of these factors on soil C oxidation trends.

Soil conditioning index (SCI)	*Wind & irrigation-induced erosion for SCI, t/ac/yr*
0.412	2.3

Soil Tillage Intensity Rating (STIR):

STIR measures the intensity of tillage or soil disturbance. STIR is an index (no units) designed solely for comparing the relative impact of different management alternatives on soil disturbance. STIR increases with increasing tillage and can range from 0 to 200+. Average annual STIR values reflect the total amount of soil disturbance that occurs during the overall rotation, averaged across the number of years in the rotation. STIR values can also be calculated for individual crops. The STIR for an individual crop represents the sum of all soil disturbance associated with establishing and harvesting that crop. Both types of STIR values are shown below. STIR values in the 5 to 20 range are typical of no-till crops and/or continuous no-till or low soil disturbance cropping systems. This cropping system is designed to result the following STIR values.

Avg. annual slope STIR: 37.6 (averaged across all years in the rotation)

Crop Interval Stir Values

Veg.	*STIR value*	*Start date*	*End date, m/d/y*
vegetations\Radish, oilseed, fall cover crop, early Aug seeding+vegetations\Corn, grain	7.93	8/2/1	10/15/2
vegetations\Soybean, group 0 and I, 7in rows	71.9	10/16/2	10/10/3
vegetations\Wheat, spring 7in rows	32.9	10/11/3	8/1/4

Fuel Use Evaluation:

Fuel type for entire run	*Equiv. diesel use for entire simulation*	*Energy use for entire simulation*	*Fuel cost for entire simulation, US$/ac*
(none)	10	1400000	0

Operation and Maintenance Summary: (See attached O&M list and Narratives)

NRCS Planning and Application Certification:

I certify the conservation practice planning and design in this specification meet the selected purposes, associated practice standard criteria and client objectives. I have the required Job Approval Authority or TSP certification required for planning and design for this conservation practice standard.

Conservationist signature: _____ **Date:**_____

I certify the conservation practice has been installed according to practice standard criteria and specification requirements. The operation and maintenance requirements for the practice have been reviewed with the client. I have the required Job Approval Authority or TSP Certification for this conservation practice installation

Conservationist signature: _____ **Date:**_____

Copy corresponding **O&M Narratives** from below.

Fuel Use Evaluation:

Fuel type for entire run	*Equiv. diesel use for entire simulation*	*Energy use for entire simulation*	*Fuel cost for entire simulation, US$/ac*
(none)	10	1400000	0

Operation and Maintenance Summary:

328 – CONSERVATION CROP ROTATION
Planned Crop Rotations shall provide for acceptable substitute crops in case of crop failure or shift in planting intentions for weather related or economic reasons.
Acceptable substitutes are crops having similar properties that will accomplish the purpose of the original crop in the planned rotation.
Evaluate the planned Crop Rotation as applied to determine if the conservation practice purposes and client objectives are met.
If the crop rotation system is not meeting the planned practice purpose(s) or client objectives, adjust the crop selection, timing and management techniques as needed to improve the plan and complete an updated CPS Conservation Crop Rotation (328) specification for the CMU.

NRCS Planning and Application Certification:

I certify the conservation practice planning and design in this specification meet the selected purposes, associated practice standard criteria and client objectives. I have the required Job Approval Authority or TSP certification required for planning and design for this conservation practice standard.

Conservationist signature: _____ Date:_____

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Conservationist signature: _____ Date:_____

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329 – RESIDUE AND TILLAGE MANAGEMENT, NO TILL
Evaluate/measure the crop residues cover and orientation after each crop to ensure the planned amounts and orientation are being achieved. Adjust management as needed to either plan a new residue amount and orientation or adjust the planting and/or harvesting equipment.
Limited tillage is allowed to close or level ruts from harvesting equipment. No more than 25% of the field may be tilled for this purpose.
If there are areas of heavy residue accumulation (because of movement by water or wind) in the field, spread the residue prior to planting so it does not interfere with planter operation.